What is claimed is:

1. An isolated polypeptide that stimulates gastrointestinal smooth muscle contraction, comprising an amino acid sequence at least 80% identical to the sequence of human prokineticin 1 (SEQ ID NO:3), said sequence comprising the N-terminal 6 amino acids of SEQ ID NO:3, the 10 conserved cysteine residues of SEQ ID NO:3, and from 0 to 9 of the 9 C-terminal amino acids of SEQ ID NO:3.

2. The isolated polypeptide of claim 1, wherein amino acid residues that differ from residues in SEQ ID NO:3 are conservative substitutions thereof.

3. The isolated polypeptide of claim 1, wherein amino acid residues that differ from residues in SEQ ID NO:3 consist of the corresponding residues from SEQ ID NO:6.

4. The isolated polypeptide of claim 3, comprising SEQ ID NO:13.

5. The isolated polypeptide of claim 1, comprising amino acids 1-77 of SEQ ID NO:3.

6. The isolated polypeptide of claim 1, comprising SEQ ID NO:3.

7. The isolated polypeptide of claim 1, comprising a 6XHis tag.

8. The isolated polypeptide of claim 1, which is detectably labeled.

9. An isolated peptide comprising at least 10 contiguous amino acids of SEQ ID NO:3, wherein said peptide is immunogenic.

10. A pharmaceutical composition, comprising the isolated polypeptide of claim 1 and a pharmaceutically acceptable carrier.

11. A method of stimulating gastrointestinal smooth muscle contraction in a mammal, comprising administering to said mammal an effective amount of the polypeptide of claim 1.

12. A nucleic acid molecule encoding the polypeptide of claim 1.

13. An expression vector containing the nucleic acid molecule of claim 12 operatively linked to a promoter of gene expression.

14. A host cell comprising the expression vector of claim 13.

15. A method of preparing the isolated polypeptide of claim 1, comprising culturing the host cell of claim 14 so as to express said polypeptide, substantially purifying said polypeptide, and refolding said polypeptide.

16. An antibody that selectively binds the polypeptide of claim 1.

17. An isolated polypeptide that stimulates gastrointestinal smooth muscle contraction, comprising an amino acid sequence at least 80% identical to the sequence of human prokineticin 2 (SEQ ID NO:6), said sequence comprising the N-terminal 6 amino acids of SEQ ID NO:6, the 10 conserved cysteine residues of SEQ ID NO:6, and from 0 to 4 of the 4 C-terminal amino acids of SEQ ID NO:6.

18. The isolated polypeptide of claim 17, wherein amino acid residues that differ from residues in SEQ ID NO:6 are conservative substitutions thereof.

19. The isolated polypeptide of claim 17, wherein amino acid residues that differ from residues in SEQ ID NO:6 consist of the corresponding residues from SEQ ID NO:3.

20. The isolated polypeptide of claim 19, comprising SEQ ID NO:14.

21. The isolated polypeptide of claim 17, comprising amino acids 1-77 of SEQ ID NO:6.

22. The isolated polypeptide of claim 17, comprising SEQ ID NO:6.

23. The isolated polypeptide of claim 17, comprising a 6XHis tag.

24. The isolated polypeptide of claim 17, which is detectably labeled.

25. An isolated peptide comprising at least 10 contiguous amino acids of SEQ ID NO:6, wherein said peptide is immunogenic.

26. A pharmaceutical composition, comprising the isolated polypeptide of claim 17 and a pharmaceutically acceptable carrier.

27. A method of stimulating gastrointestinal smooth muscle contraction in a mammal, comprising administering to said mammal an effective amount of the polypeptide of claim 17.

28. A nucleic acid molecule encoding the polypeptide of claim 17.

29. An expression vector containing the nucleic acid molecule of claim 17 operatively linked to a promoter of gene expression.

30. A host cell comprising the expression vector of claim 29.

31. A method of preparing the isolated polypeptide of claim 17, comprising culturing the host cell of claim 30 so as to express said polypeptide, substantially purifying said polypeptide, and refolding said polypeptide.

32. An antibody that selectively binds the polypeptide of claim 17.

33. A method of identifying a prokineticin receptor ligand, comprising contacting a preparation comprising prokineticin receptor with one or more candidate compounds, and identifying a compound that specifically binds to said receptor, said compound being characterized as a prokineticin receptor ligand.

34. The method of claim 33, wherein said preparation is an intestinal smooth muscle preparation or membrane preparation thereof.

35. The method of claim 33, wherein said preparation is a cell line or membrane preparation thereof.

36. The method of claim 35, wherein said cell line is M2A7 (ATCC CRL-2500).

37. The method of claim 33, wherein the ability of said ligand to selectively agonize or antagonize prokineticin receptor signaling is further determined.

38. The method of claim 37, wherein said signaling is determined in a cell line.

39. The method of claim 38, wherein said cell line is M2A7 (ATCC CRL-2500).

40. The method of claim 37, wherein said signaling is determined by monitoring calcium mobilization.

41. The method of claim 33, wherein the ability of said ligand to modulate smooth muscle contractility is further determined.

42. A method of identifying a prokineticin receptor agonist, comprising contacting a preparation comprising a prokineticin receptor with one or more candidate compounds, and identifying a compound that selectively promotes production of a prokineticin receptor signal, said compound being characterized as a prokineticin receptor agonist.

43. The method of claim 42, wherein said preparation is a cell line.

44. The method of claim 43, wherein said cell line is M2A7 (ATCC CRL-2500).

45. The method of claim 42, wherein said signaling is determined by monitoring calcium mobilization.

46. The method of claim 42, wherein the ability of said agonist to modulate smooth muscle contractility is further determined.

47. A method of identifying a prokineticin receptor antagonist, comprising contacting a preparation comprising a prokineticin receptor with one or more

candidate compounds in the presence of a prokineticin, and identifying a compound that selectively inhibits production of a prokineticin receptor signal, said compound being characterized as a prokineticin receptor antagonist.

48. The method of claim 47, wherein said prokineticin comprises an amino acid sequence selected from the group consisting of amino acids 1-77 of SEQ ID NOS:3 and amino acids 1-77 of SEQ ID NO:6.

49. The method of claim 47, wherein said preparation is a cell line.

50. The method of claim 49, wherein said cell line is M2A7 (ATCC CRL-2500).

51. The method of claim 47, wherein said signaling is determined by monitoring calcium mobilization.

52. The method of claim 47, wherein the ability of said antagonist to modulate smooth muscle contractility is further determined.